## Keer Yang

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EDUCATION

University of Minnesota, Minneapolis, U.S.

2016 - Present

Ph.D. Candidate in Finance

(expected May 2022)

Toulouse School of Economics, Toulouse, France

2014 - 2016

M.Res. in Economic Theory and Econometrics

Zhejiang University, Hangzhou, China

2010 - 2014

B.S. Mathematics and Applied Mathematics

RESEARCH INTERESTS FinTech, Machine Learning, Financial Intermediaries, Empirical Corporate Finance

Working Papers

Trust as an Entry Barrier: Evidence from FinTech Adoption (Job Market Paper)

2021 Financial Management Association Best Paper Award in FinTech Semifinalist

This paper studies the role of trust in incumbent lenders (banks) as an entry barrier to emerging FinTech lenders in credit markets. The empirical setting exploits the outbreak of the Wells Fargo scandal as a negative shock to borrowers' trust in banks. Using a difference-in-differences framework, I find that increased exposure to the Wells Fargo scandal leads to an increase in the probability of borrowers using FinTech as mortgage originators. Utilizing political affiliation to proxy for the magnitude of trust erosion in banks in a triple-differences specification, I find that, conditional on the same exposure to the scandal, a county experiencing a greater erosion of trust has a larger increase in FinTech share relative to a county experiencing less of an erosion of trust. Estimating treatment effect heterogeneity using generic machine learning inference suggests that borrowers with the greatest decrease in trust in banks and the greatest increase in FinTech adoption have similar characteristics.

## FinTech and Racial Barriers in Small Business Lending with Celine Yue Fei

Why are fintech lenders more popular among minority-owned businesses? We provide novel evidence on this question using a linked database on a national-wide restaurant sample from Yelp and Paycheck Protection Program (PPP) loans. We show that in a simple two-sided matching model, three distinct channels can lead to a higher fintech usage by minority borrowers: 1) differences in operational performance between minority and non-minority borrowers; 2) a smaller proportion of minority borrowers having lending relationships; 3) racial-dependent factors affecting the value of the borrower-lender matches. Empirically, we do not find consistent evidence on the first channel. We find supporting evidence for the second channel that minority-owned restaurants are less likely to have lending relationships and restaurants without lending relationships are more likely to use fintech lenders. We also find evidence supporting the third channel that minority-owned restaurants are more undervalued by traditional than fintech lenders. We further show that higher levels of business capital on the borrower side and

a smaller geographic scope on the lender side can mitigate the racial gap in the value of the borrower-lender match. The results in 2021 become statistically insignificant, suggesting that racial disparities are largely reduced. We do not find a similar pattern for first-time bank participants, community development financial institutions, credit unions, or other non-federally insured lenders. Minority-owned businesses preferring faster loan approval also cannot explain the racial disparities we document. Overall, our results suggest that there are racial barriers in traditional loan distribution channels that can be at least partially addressed by fintech lenders.

## Predicting Firm Profits: From Fama-MacBeth to Gradient Boosting with Murray Frank

This paper studies the predictability of firm profits using Fama-MacBeth regressions and gradient boosting. Gradient boosting can use more relevant factors and it predicts better. Profits are more predictable at firms that are large, investment grade, low R&D, low market-to-book, low cash flow volatility. Effects on financing decisions, and cross-section of stock returns are studied. During recessions profits are less predictable, particularly for particularly non-investment grade firms. Both algorithms produce estimates like those interpreted in the literature as evidence of excessive human optimism during booms and excessive pessimism during recessions.

#### Does Finance Flow to High Productivity Firms? with Murray Frank

This paper studies the impact of productivity on the flow of financial resources to and from firms. To do this we use machine learning methods (Lasso, XGBoost) to derive a new measure of firm productivity using standard corporate accounts. Output is sales revenue and we find that the key inputs are i) cost of goods sold, ii) selling general and administrative expenses, iii) total assets. Empirically finance typically flows away from high productivity firms. This happens because firm invest in operations and reward investors when productivity is high. To fund these actions they make use of internal cash holdings which provides a novel motivation for corporate cash holdings.

## WORK IN PROGRESS

# The Ex Ante Effect of Bankruptcy Law with Richard Thakor and Jacelly Cespedes

We study how bankruptcy law affects the investment and financing decisions of small businesses, and what effect it has on real outcomes. To do so, we utilize unique microdata from the agricultural sector, providing us with detailed financial, investment, and productivity data for individual private farms. Using this data, we identify an effect based on qualification thresholds stipulated by a special bankruptcy code uniquely available to farmers, which permits some farmers to receive much more debtor-friendly treatment.

CONFERENCE AND SEMINAR PRESENTATIONS (\*BY CO-AUTHOR)

- Trust as an Entry Barrier: Evidence from FinTech Adoption
  - 2021 FMA Annual Meeting (scheduled)
  - 2021 2nd PhD Student Symposium at UT Austin
  - 2021 6th Cambridge Centre for Alternative Finance Annual Conference
  - 2021 4th Dauphine Finance PhD Workshop
  - 2021 China Fintech Research Conference
  - 2021 Behavioural Finance Working Group Conference
  - 2020 CEPR European Conference on Household Finance

- Can FinTech Benefit Minority-owned Small Businesses? Evidence from the Paycheck Protection Program
  - 2021 2nd Annual Boca Corporate Finance and Governance Conference (scheduled)
  - 2021 14th Annual Meeting of the Academy of Behavioral Finance & Economics(\*)
- Does Finance Flow to High Productivity Firms?
  - 2019 University of Iowa
  - 2019 China International Conference in Finance(\*)
  - 2018 London Business School Summer Finance Symposium(\*)
  - 2018 Minnesota Corporate Finance Conference(\*)
  - 2018 CSOM Summer Applied Economics Workshop(\*)
  - 2018 Workshop on Artificial Intelligence and Machine Learning in Financial Services at Rensselaer(\*)

## Programming Languages

Programming: SQL, R, Python, LaTex Software: SAS, Stata, Matlab, TensorFlow

### Professional Service

#### Referee

• Journal of Corporate Finance

#### **Invited Discussions**

- 2021 China International Conference in Finance: Big Data Analyses with No Digital Footprints Available Evidence from Cyber-Telecom Fraud by Liu, Liu, Ruan, Yang, and Zhang
- 2021 Behavioural Finance Working Group conference: Psychological and Social Motivations in Microfinance Contracts: Theory and Evidence by Dhami, Arshad, and al-Nowaihi
- 2020 Financial Management Association: FinTech and the Supply of Credit to Small Business by Mark Johnson

## TEACHING EXPERIENCE

## Instructor

• Finance Fundamentals, University of Minnesota, 2018-2019

#### Teaching Assistant

- Machine Learning in Finance
- Portfolio Analysis and Management, Interest Rates and Hedging, Options & Derivatives, Corporate Financial Decisions and Analysis, M&A, Financial Modeling, Financial Econometrics and Computational Methods, International Finance

## AWARDS AND HONORS

## Carlson School of Management, University of Minnesota

CSOM dissertation fellowship	2020 - 2021
PhD student conference-travel fellowship	2020-2021
PhD Fellowship	2016 - 2021

#### French Ministry of Foreign Affairs

France Excellence Scholarship 2014 - 2016

**Zhejiang University** 

Outstanding Graduates 2014 Academic Excellence 2011-2013

Additional Experience Carlson School of Management, University of Minnesota

Research Assistant 2016-Present

Jyah Asset Management

Assistant Analyst June 2015-August 2015

IBM-Biocomputing Lab

Research Assistant June 2012-October 2012

References

Murray Z. Frank (main-advisor)

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Richard T. Thakor

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